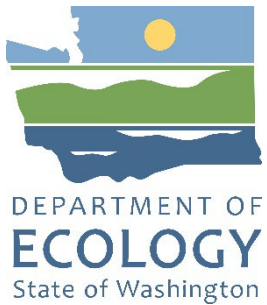




# WELCOME TO LET'S TALK ABOUT HANFORD

WE WILL BEGIN TONIGHT'S  
CONVERSATION SOON





# Let's Talk About Hanford: Other Washington Nuclear Sites

John Temple – Facility Transition Project Manager

November 2022



# Naval Base Kitsap



- 3rd largest Naval Base in the United States
- In continuous operation since 1891



- Naval Base Kitsap is home port to both active and inactive vessels.
- Perform maintenance, overhaul, decommissioning, and dismantling of Navy vessels

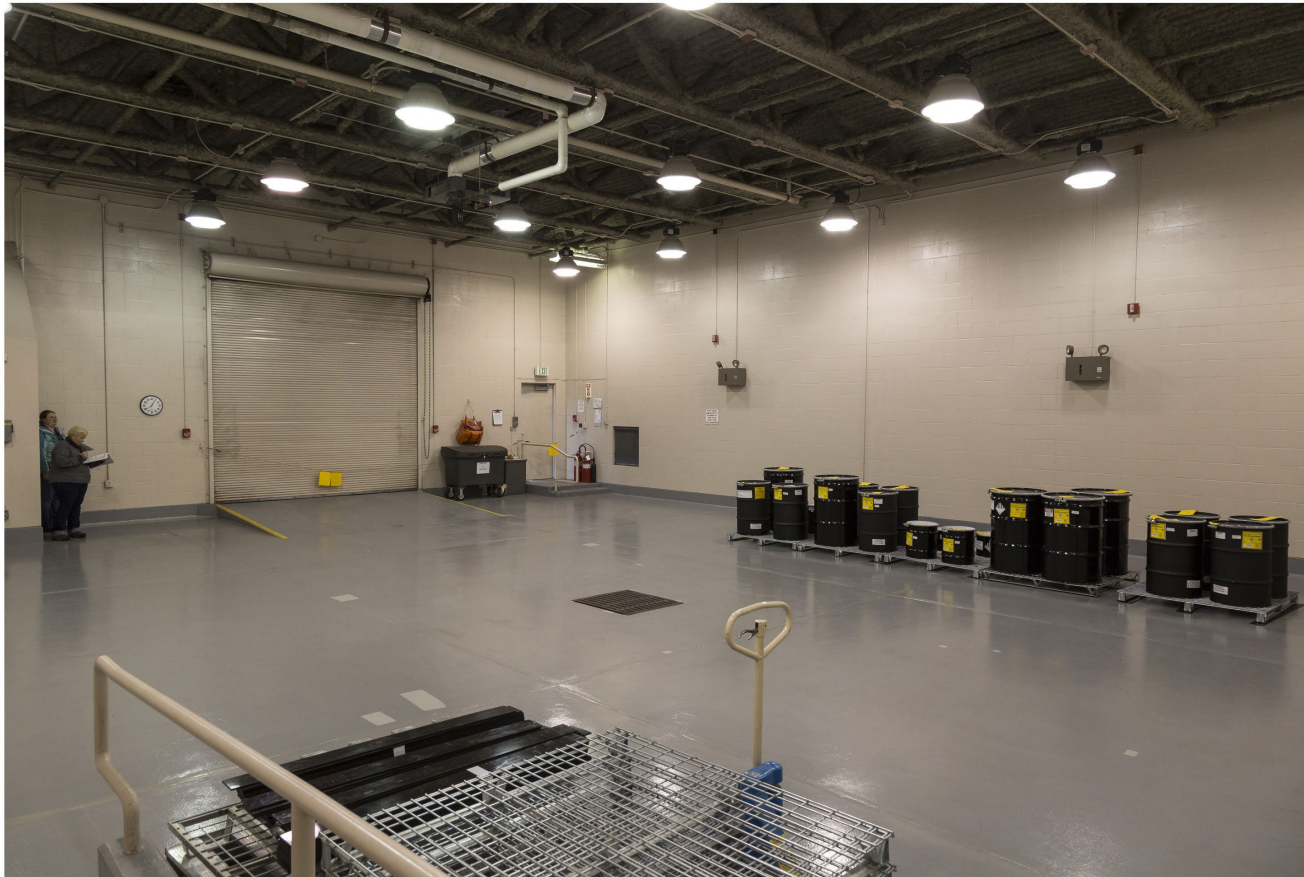
# Mixed Waste Storage Facility (MWSF)

- MWSF operating since 1996
- Designed and constructed to store only mixed waste – no treatment





# Mixed Waste Storage Facility



- Majority of mixed waste in solid form and stored in 55 gallon metal drums (e.g., paint chips from ship refurbishing)
- NWP performs onsite inspections of the MWSF once a year

# Mixed Waste Storage Facility Permit

- Current dangerous waste (DW) permit for the MWSF was issued in March 2022.
- The permit will be effective until 2032.

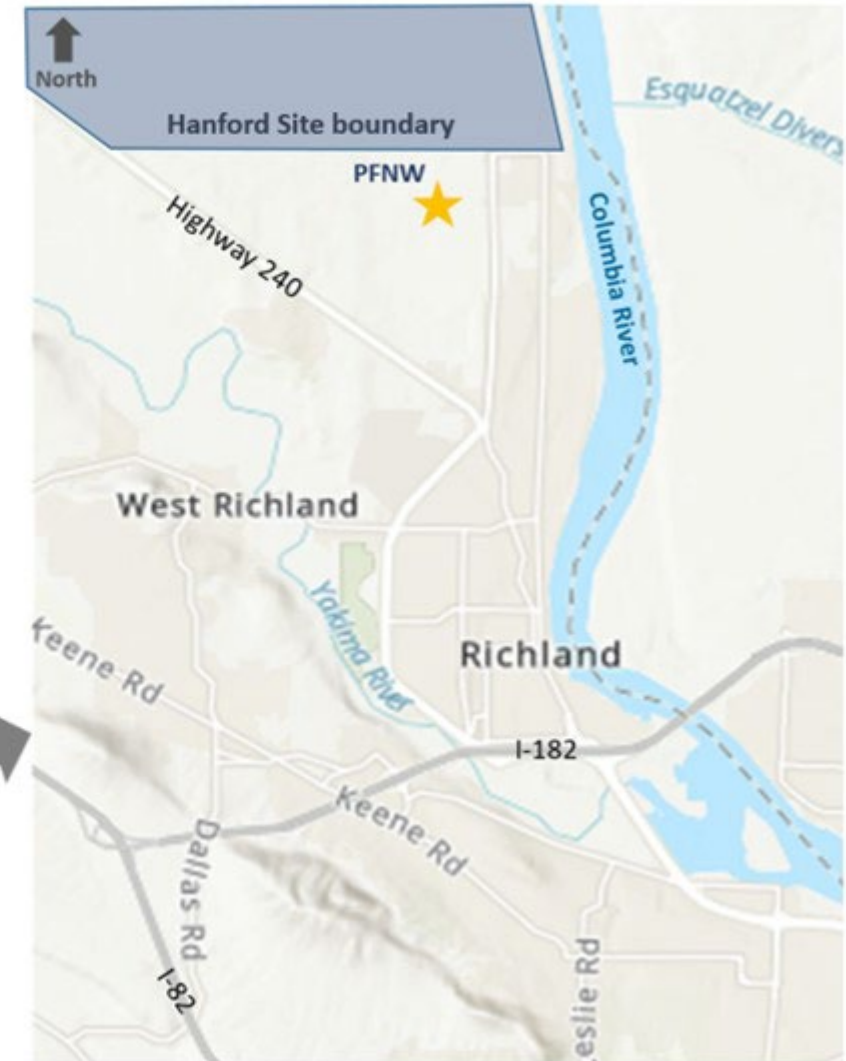
## Changes to the permit

- Containers managing ignitable waste are now stored in a separate storage cabinet.
- Maximum storage capacity configuration for the MWSF was reduced to allow aisle spacing requirements to be met for all containers in storage .

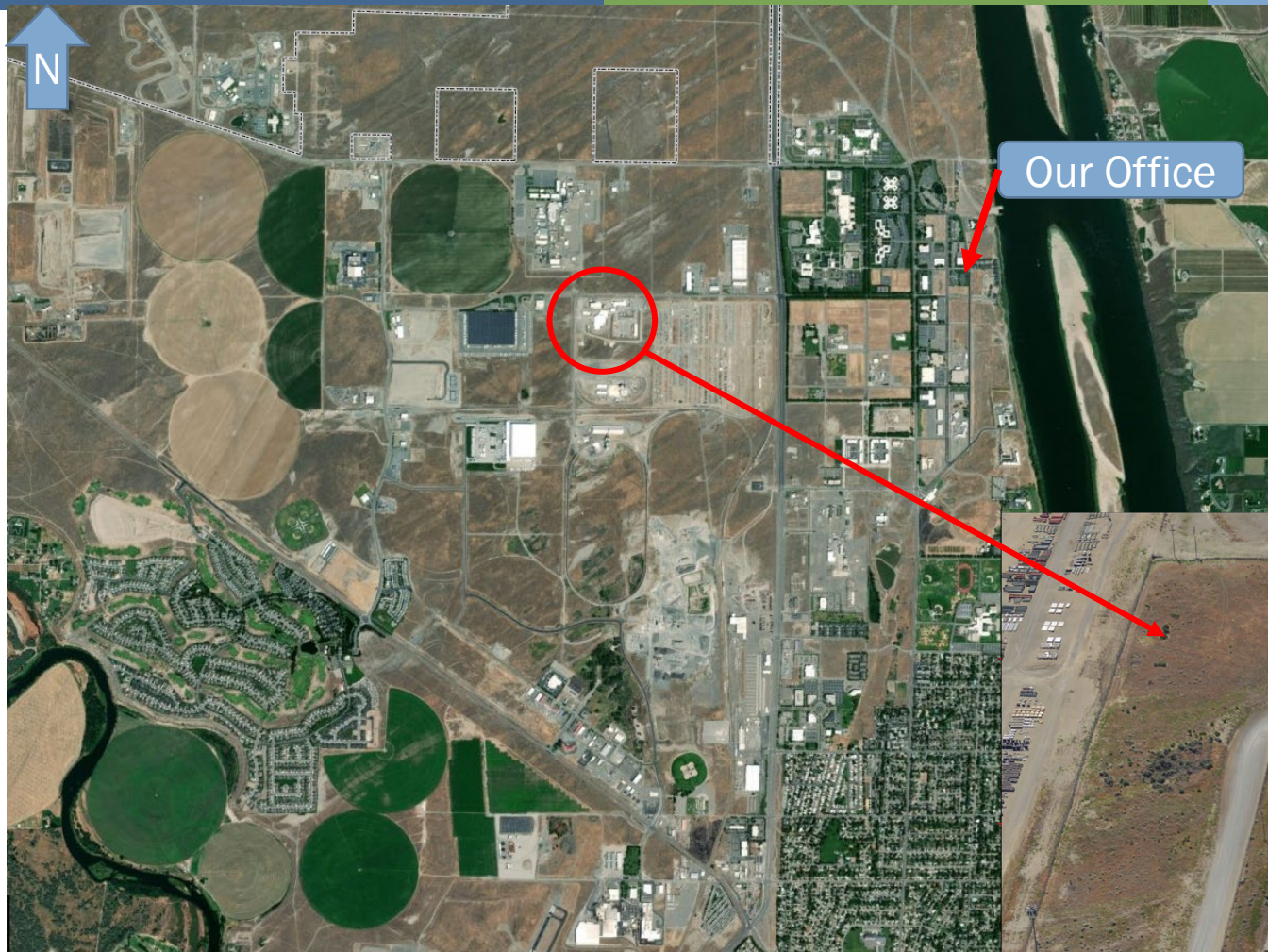
# Perma-Fix Northwest

Perma-Fix Northwest operates a commercial Mixed Waste Facility and a Low-Level Waste Facility on 45 acres near the Hanford Site in Richland.

Perma-Fix Northwest took over operations in 2007. Previous owners included Allied Technology Group, Inc. and Pacific Eco-Solutions, Inc.







Our Office

## Low-Level Waste Facility

- Manages Low-Level Radioactive Waste (LLW)

## Mixed Waste Facility

- Manages Mixed Low Level Radioactive waste (MLLW) and TSCA PCB waste



# Agencies Authority

- **Washington State Department of Ecology** – Issues DW Permit for the treatment, storage, and handling of MLLW
- **Washington Department of Health** – Issues radioactive materials license & radiological air emissions license
- **Environmental Protection Agency** – Issues Toxic Substances Control Act (TSCA) Approval for storage of mixed Polychlorinated biphenyl (PCB) waste
- **Benton Clean Air Authority** – Issues Notice of Construction Approval Orders for criteria & toxic air emissions

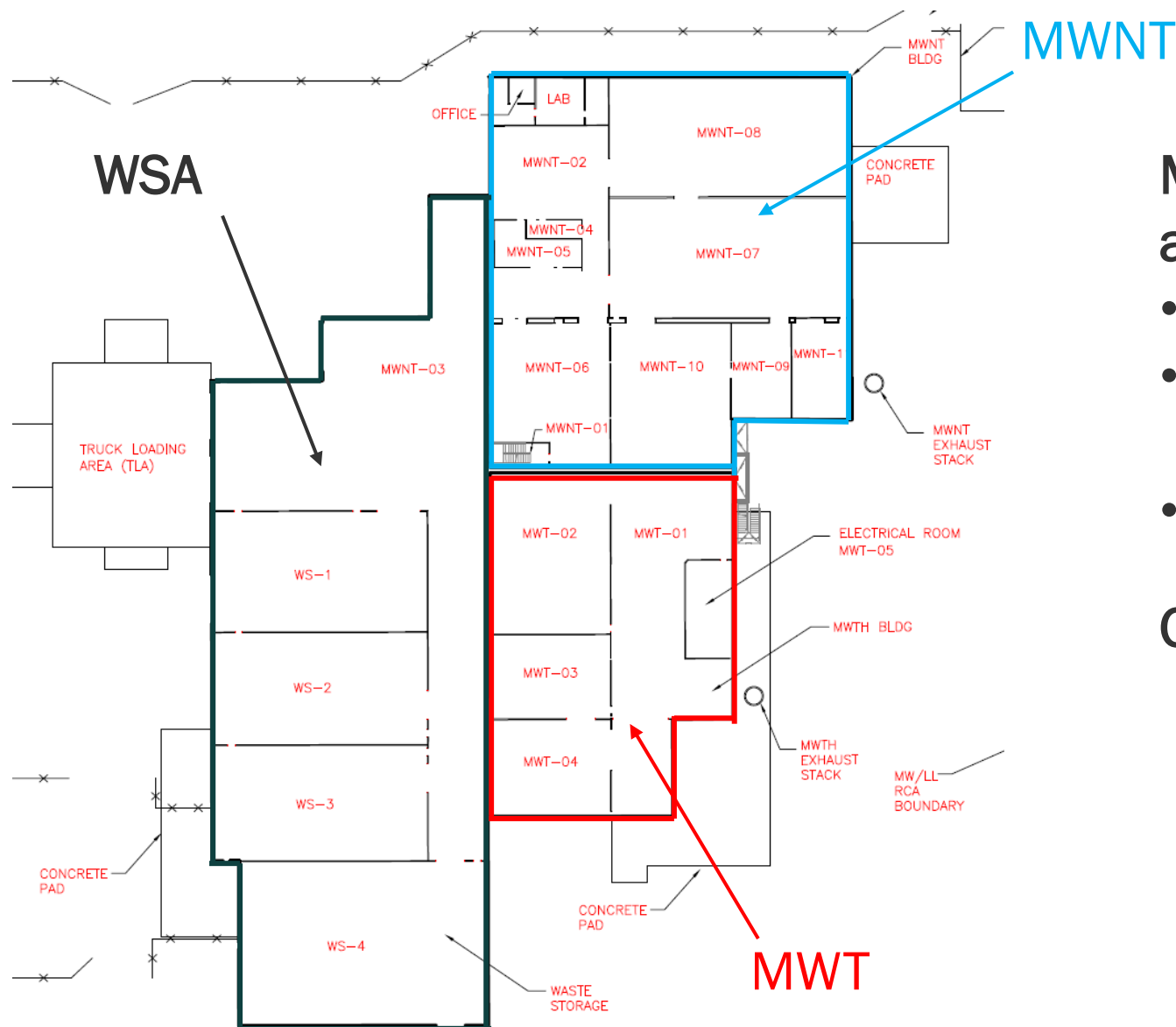


# Mixed Waste Facility (MWF)

- MWF is a 68,000 ft<sup>2</sup> steel framed, metal sided building
- Three separate activities:
  - Treatment
  - Storage
  - Loading/Unloading







## Mixed Waste Facility consists of 3 areas:

- Waste Storage Areas
- Mixed Waste Non -Thermal Areas
- Mixed Waste Thermal Areas

## Operations:

- Mixed waste receipt
- Inspection
- Storage
- Pre-treatment
- Treatment
- Packaging

# Waste Streams

## Generator Categories:

- USDOE, Hanford Site
- USDOE, Other Sites
- Other Federal Agencies (Non-USDOE)
- Non-Federal Domestic Generators
- International Generators

## Waste Categories:

- MLLW
- Mixed Transuranic waste (TRUM)
- TSCA Mixed PCB

## Typical waste streams

- Solids
  - Contaminated soils, powders
  - Air pollution control residue
- Liquids
  - Petroleum based liquids
  - Solvents
- Debris
  - Plastic, wood, metal, concrete
- Sludge

# Waste Processing at the MWF

- Waste Acceptance Process: Decision on whether to accept a waste stream. Based on treatment capabilities, nature of the waste, and compatibility
- Waste Profile: Reviewed to ensure waste codes associated with the waste stream are allowed by the DW permit.
- Waste off-loaded into the MWF is subject to verification screening
- Treatment Plan developed for each waste stream accepted at the MWF



# Waste Management Techniques

## Pre-Treatment

- Reduce volume
  - Shredder system
  - Cutting and shearing
  - Drum compactor
  - In-barrel compactor
  - Super compactor
- Depressurize contained gas
  - Aerosol can puncturing device

## Treatment

- Meet land disposal restrictions (LDR) standards
  - Low Capacity Mixer
  - In-Container Mixer
  - Macroencapsulation

# DW Permit History

- Initial permit was issued to Allied Technology Group, Inc. in 1999 and then was transferred to Pacific Eco-Solutions, Inc. PFNW took over the MWF in 2007
- PFNW operates the facility under the current permit because PFNW submitted the renewal application on time before the expiration and the agency (EPA and Ecology) granted continuation of the current permit.
- Ecology and PFNW are working to resolve the remaining outstanding comments on the renewal application.

# DW Permit Renewal

## Additional treatment processes

- Draining and Decanting
- Solidification/Stabilization/Deactivation/Neutralization

- Increase capacity for treatment units (e.g., In-Container Mixer, Shredder system)
- **Additional Waste Storage**



# Why is it taking a long time to issue the renewal permit?

- Time spent on processing permit modifications.
- Staff turn over on both sides.
- Last 6 months PFNW and Ecology have made progress in resolving the remaining open comments on the renewal application.
- Public comment period on renewal in 2023.

# Energy Facility Site Evaluation Council (EFSEC)



- EFSEC established in 1970 to provide oversight of large energy facilities in Washington State.
- EFSEC is the primary regulatory authority over the Columbia Generating Station and Industrial Development Complex.

# EFSEC



- Energy Northwest owns and operates the Columbia Generating Station (CGS) and Industrial Development Complex (IDC) located on the Hanford Site.
- The CGS is a nuclear energy facility that has been operating since 1984 and supplies electricity through out the state.
- The IDC was the site for two additional nuclear energy facilities that were never completed. Currently undergoing closure and restoration.

# Ecology's Role

- EFSEC contracts out the Nuclear Waste Program to assist in its regulatory responsibilities for the CGS and IDC.
- NWP drafts permits, performs inspections, and reviews key documents for the CGS and IDC as identified in our contract with EFSEC.



# Ecology's Role Cont.

- Quarterly Audits
- Waste-Water Discharge Permits (NPDES & SWDP)
- Synthetic Minor Air Inspection





## Learn more



@ecyHanford



EcologyWAHanford



Hanford@ecy.wa.gov